Journal of Language Research
ZABANPAZHUHI

Scientific Journal of Language Research, Vol. 13, No. 41, winter 2022
Alzahra University, http://jlr.alzahra.ac.ir
Article Type: Research
pp.55-80

Representational Complexity of Persian Absolute Tenses During Listening Comprehension

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Received: 25/01/2021
Accepted: 03/04/2021

1. INTRODUCTION

Different linguists have proposed different definitions for tense. This study investigates processing of sentences containing different tenses of Persian by the cross-modal lexical decision method. This psycholinguistic method has been used classically by Shapiro and Levine (1990) to estimate the cognitive load across the mind. The main question of this inquiry is the psycholinguistic reality of tense complexity hierarchy arranged from absolute to relative. The theoretical framework is mainly based on episodic processing in which mental representations of linguistic items are not as abstract as it seems, but it is subject to the sensory input by which the representation is formed. Also, the classification of Comrie (1985) on tenses has been applied here. He divided tenses into two broad categories of past/non-past. Absolute and relative types of the Persian tense have been elaborated and analyzed in detail.

2. MATERIALS AND METHODS

The method used in this research is the cross modal lexical decision method, which will be detailed due to its importance. Theoretical framework applied here is that of Comrie (1985) in linguistics and Shapiro (1990) in psycholinguistics. Independent variable is the type of tense used in the verb form and the dependent variable is subjects' reaction times. 25 students of universities aged 18-30 participated in this study. The results of two experiments show that the psychological reality of the complexity of representation of grammatical tenses according to Persian data is confirmed and there is a significant difference between the processing time of sentences containing different types of grammatical tenses.

3. RESULTS AND DISCUSSION

It was found out that Persian has two absolute tenses: Past and present; as well as four relative tenses: the perfective, the pluperfect, the subjunctive, and the relative past. The main question of the present study is that of the psycholinguistic reality of Tense in Persian. Cross modal lexical decision has been used here to examine tense

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during sentence processing. The results of the first experiment showed that sentences containing factual scientific present tense verbs, future tense verbs, and performatives are processed sooner than the other tenses. The justification and explanation of this can be attributed to the fact that scientific facts have been recorded in the life experience of human beings and have a high frequency. The results of the second experiment also showed that converting simple sentences to complex ones will omit the meaningful differences in the participants' reaction times. The findings can be used in curriculum design for non-natives of Persians. The subject of the present article is the study of how auditory perception of sentence structures with verbs containing different types of grammatical tenses in Persian is affected by representational complexity of their inner tenses. The Persian language has a variety of absolute and relative tenses, each of which is used as needed, and Mahmoodi-Bakhtiari (Mahmoodi-Bakhtiari 2002) has written in detail about the nature and function of each, and since this work is a comprehensive description of the topic of time in Persian, it provides the basis for data collection of the present study. The two main research questions are: a) Which types of tense is processed faster than the others and why? B) According to data from the Persian language, what is the mental representation of grammatical tense in Persian?

The two hypotheses corresponding to the questions of this research are that there is a significant difference between the processing time of sentences containing different types of tenses and also the complexity of these representations has a psychological reality. In order to answer the questions, two experiments have been developed.

4. CONCLUSION

(1) The principles and generalizations inferred from the results; The choice of mean reaction time as a dependent variable in widely used cognitive experiments is due to convenience. In this study, reaction time to the auditory stimulus is the basis for measuring cognitive load. Cognitive load refers to the amount of mental energy needed to perform a task. This mental energy can be nourished by memory, storage and retrieval.

(2) Any exceptions to, or problems with these principles and generalizations; Here, there has been found no exceptions or problems with the cognitive load principles and generalizations.

(3) Theoretical and/or practical implications of the work; If we consider cognitive burden as the basis of learning, this research can have implications for teaching Persian language. The high reputation of using reaction time in psychological research, especially in the field of cognition and language processing, is something beyond theoretical interest. The concept of cognitive burden can be used in teaching Persian language and the research results can be considered in compiling educational materials and materials.

Keywords: Cognitive Load; Listening Comprehension; Reaction Time; Representational Complexity; Tense